

WHAT IS CLAIMED IS:

1. A tool for dilating the wall of a tunnel in bone, comprising:
a plurality of segments, each comprising an elongated portion and a hub portion,

a knob for receiving said hub portions of said segments, so that when said segments are assembled to said knob the elongated portions of said segments together define an elongated member extending away from said knob on one side thereof, said elongated member having an axis, and fitting within said tunnel, said knob and said hub portions together defining structure whereby said segments are constrained to move generally inwardly and outwardly with respect to said axis while remaining substantially parallel thereto, and

means operable from a position on the opposite side of said knob from said elongated member for causing said segments to move outwardly with respect to said axis, whereby said wall of said tunnel is dilated by said segments.

2. The tool of claim 1, wherein said means operable from a position on the opposite side of said knob from said elongated member comprises a tapered central member fitting within a cooperatively tapered lumen formed about said axis by the inner surfaces of said segments, whereby when said central member is moved distally along said lumen said segments are forced outwardly.

3. The tool of claim 2, wherein said central member defines two tapered surfaces joined by a cylindrical section, and said lumen defines two angled cylindrical surfaces joined by a cylindrical section.

4. The tool of claim 3, wherein said lumen comprises a further cylindrical section.

5. The tool of claim 2, wherein said central member and said knob have corresponding threads formed thereon, whereby turning said central member with respect to said knob urges said central member axially along said lumen, whereby said segments are forced outwardly.

6. The tool of claim 1, wherein said means operable from a position on the opposite side of said knob from said elongated member comprises a cam fitting between opposed inner surfaces of said segments, said cam having a non-radially symmetric cross-section, so that as said cam is rotated said segments are urged outwardly.

7. The tool of claim 1, wherein said structure together defined by said knob and said hub portions, whereby said segments are constrained to move generally inwardly and outwardly with respect to said axis, comprises a radially-extending slot formed in said knob for each segment and a correspondingly-shaped member formed on each hub portion thereof, whereby the segments are constrained to move radially inwardly and outwardly substantially parallel to said axis.

8. The tool of claim 7, wherein said slots in said knob further comprise portions extending transverse to the axis of said elongated member, and said member formed on each hub portion includes a corresponding transverse portion, whereby said segments are further constrained to move parallel to said axis.

9. The tool of claim 1, further comprising means for urging said segments toward said axis, whereby the assembly thereof is maintained.

10. The tool of claim 9, wherein said means for urging said segments toward said axis comprises a garter spring extending around the assembly of said segments.

11. A method for dilating the wall of a tunnel in bone, comprising the steps of:

inserting an elongated section of a tool for dilation into said tunnel, said tool comprising:

a plurality of segments, each comprising an elongated portion and a hub portion,

a knob for receiving said hub portions of said segments, so that when said segments are assembled to said knob the elongated portions of said segments together define an elongated member extending away from said knob on one side thereof, having an axis, and fitting within said tunnel, said knob and said hub portions together defining structure whereby said segments are constrained to move generally inwardly and outwardly with respect to said axis, while remaining substantially parallel thereto, and

operating means operable from a position on the opposite side of said knob from said elongated member for causing said segments to move outwardly with respect to said axis, and

operating said operating means in order to cause said segments to move outwardly with respect to said axis, whereby said wall of said tunnel is dilated by said segments.

12. The method of claim 11, comprising the further steps of operating said operating means in an opposite sense, to cause said segments to move inwardly, rotating said tool, and repeating said step of operating said operating means in order to cause said segments to move outwardly with respect to said axis.

13. The method of claim 11, wherein said operating means comprises a tapered central member fitting within a cooperatively shaped lumen formed about said axis by the inner surfaces of said segments, and wherein said central member and said knob have corresponding threads formed thereon, said method comprising the further steps of engaging said corresponding threads with one another and turning said central member with respect to said knob, urging said central member axially along said lumen, whereby said segments are forced outwardly.